

## Analysis of Economic Potential in Southwest East Java Province Using LQ, Shiftshare, and Klassen Typology Analysis Methods

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### ABSTRACT

The purpose of this study is to analyze the potential of the economic sector in the southwestern part of East Java Province by identifying which sectors are the base sectors and experience relatively rapid growth. Economic growth and improvement of people's welfare are greatly influenced by the base economic sector. The data used is secondary data from the Central Statistics Agency (BPS) of Madiun, Magetan, Ngawi, Pacitan, Ponorogo, Trenggalek, and East Java Provinces during the period 2010 to 2023. The approach of this study is descriptive with quantitative analysis, using the Location Quotient (LQ) technique, shift share analysis, and Klassen typology. The results show that in the southwestern region of East Java there are an average of seven base sectors, ten sectors with relatively fast growth, twelve sectors that contribute to East Java's GDP growth, and eleven sectors with location advantages. Of the six districts studied, only Madiun Regency is included in the rapidly developing regional quadrant.

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## **INTRODUCTION**

Indonesia's economic growth shows a significant positive dynamic, but as one of the developing countries, the main challenges faced are equitable development and poverty reduction. Although Indonesia has great potential thanks to its natural resources and domestic markets, socioeconomic inequality and dependence on natural resource exports are obstacles to sustainable development. Therefore, it is important for the government to focus on developing potential sectors in each region so that economic growth can be more even. By increasing productivity and per capita income, Indonesia can reduce the economic gap between regions. Economic growth is a form of economic activity that makes a significant contribution to per capita income nationally because the resulting input and output relationship will increase regional productivity and per capita income at the center of economic activity (Wicaksono, 2019).

Economic growth can be one of the vital components of economic standards in a region. Economic growth as seen from the escalation of the Gross Regional Domestic Product (GDP) is a measure of a region's success in carrying out economic development. A region is required to have sustainable economic growth in order to improve the economic development and welfare of the region. The success of regional development greatly determines the success of national development. Therefore, regions are required to increase their capacity in managing their regional potential (Sendi & Syahbudi, 2022).

Each region or region always has different characteristics, the difference is the resources and potential of each sector in the region. Therefore, in making policies and implementing regional development programs, it cannot be equalized with other regions. In addition, a region also has diverse characteristics or uniqueness and adjusts to regional needs such as geographical location, culture, and social conditions of its population. Therefore, it is necessary to have a policy in the form of an appropriate and appropriate regional development plan to strengthen economic sectors that have high opportunities through the process of development, improvement, and optimal use of existing resources, because the right regional development plan policy will make economic growth experience a significant escalation and will open new job fields and increase the process of producing goods and services that will make people's per capita income increased (Destiningsih et al., 2019).

According to the theory of economic bases, the main determinants or elements in economic growth have a relationship or correlation with the amount of demand for goods and services from outside the region. In the theory of economic bases, each area is a socio-economic system with a clear structure. The basis of this theory is the idea of the Location Quotient (LQ) method, where this method is a method that supports the determination of the economic export performance of a region and is the level of sector self-sufficiency (Putri & Huda, 2023).

Periodic or periodic increase in GDP can show how much the welfare of the population has improved. Local governments are required to be able to explore the potential of the local economy through the base and non-base sectors, especially in the regional base sector to increase GDP. The creation of

barang\_dan\_jasa from sources outside the region is possible for economic activities in the base and non-base sectors, especially in the base sector. Meanwhile, non-base activities are greatly influenced by the size of regional income and initiatives to meet regional needs. Therefore, the region is the only place to develop these sectors. Basic activities are very important to analyze and estimate the future of the local economy (Aditama, 2019).

Economic activities in Indonesia are currently still centered on one of the most populous islands in Indonesia, namely the island of Java. This is because the level of development progress on the island of Java is the most significant in providing the largest contribution to GDP in Indonesia. The large contribution of GDP is influenced by the condition of the region on the island of Java, which has abundant natural resources, a large domestic market, and a productive age workforce that is educated and supported by adequate infrastructure compared to other islands in Indonesia (Maodi & Desmintari, 2022).

## **LITERATURE REVIEW**

### ***Economic Development Theory***

According to Todaro's theory of economic development, one of the components in the development of a region is economic development. Development can be defined as a multidimensional process that is influenced by changes in economic, social, mental, national institutions, and the eradication of absolute poverty (Hardana et al., 2023).

### ***Economic Growth***

According to Kuznest, economic growth is an activity to increase the long-term capacity of a country that has the goal of supplying economic commodities to its population. Capacity expansion can be characterized by technological developments, institutional transformation, and ideological responses to the many needs in the current situation. In addition, Kuznets also emphasized that economic growth is always accompanied by changes in economic structure, namely a shift from the dominance of the primary sector (agriculture and resource extraction) to the secondary sector (industry and manufacturing) and then the tertiary sector (services).

### ***Location Theory***

The location is a space. The space can be used as learning related to locations that visually have a proximity or distance between an activity and other activities and to find out whether there is an influence of each activity that is enabled because of the adjacent or distant location. Therefore, location theory in economic development is important to formulate policies that can encourage more equitable and efficient economic growth and reduce inequality between regions (Habiby, 2020).

### ***Theory of Economic Bases***

According to the theory of economic bases, the primary determinant in economic growth has a correlation with the need for demand for goods and services from outside the region. In the theory of economic bases, each area is a

socio-economic system with a clear structure. The basis of this theory is the tentative idea of the Location Quotient (LQ) method, where the method is a method that supports the determination of economic export performance from a region and is the level of sector self-sufficiency (Sutrisno, 2021).

### ***Gross Regional Domestic Product (GDP)***

Gross Regional Domestic Product (GDP) is an important indicator in macroeconomics that is used to plan development policies, assess development outcomes, and determine the direction of development of a region. Changes in GDP are influenced by shifts in production prices or output indices, which causes the value produced by each sector to vary. In the long run, these changes can lead to a shift in the structure of the economy, especially if the development of certain sectors is uneven. GDP is the main reference in assessing the economic condition of the region from time to time, by measuring the total added value produced by all production units in a region (Novitasari, 2015).

## **METHODOLOGY**

### ***Research Approach***

A descriptive approach was used for this study. Using quantitative analysis, this procedure is used to determine the clear differences between the base and non-base sectors in Madiun Regency, Magetan Regency, Ngawi Regency, Pacitan Regency, Ponorogo Regency, and Trenggalek Regency. The data obtained is processed using numerical equations that are currently used. The way this data is processed will later provide an overview of the areas of Madiun Regency, Magetan Regency, Ngawi Regency, Pacitan Regency, Ponorogo Regency, and Trenggalek Regency, then it will be produced which economic sectors are experiencing slow growth and must be developed first to improve the national economy and the regional economy as a whole.

### ***Place and Time of Research***

This research was carried out in the areas of Madiun Regency, Magetan Regency, Ngawi Regency, Pacitan Regency, Ponorogo Regency, and Trenggalek Regency which are the scope of the research. The research time starts on October 14, 2024.

### ***Operational Definition and Measurement of Research Variables***

Operational definition and variable measurement refers to an explanation of the definition and how to measure research variables practically, based on existing theories and empirical experience. The goal is to avoid misunderstandings about the variables discussed and to make it easier to apply the data used. To be clearer about the observed variables, measurements were made of these variables. (Bachtiar, 2015)

The variables used in this research are:

1. Total Gross Regional Domestic Product of East Java from 2010 - 2023 (in rupiah units).

2. Total Gross Regional Domestic Product of Madiun Regency, Magetan Regency, Ngawi Regency, Pacitan Regency, Ponorogo Regency, and Trenggalek Regency from 2010-2023 (in rupiah units).

### ***Data Collection Methods***

In this study, data was collected using a literature study method, namely by searching for information through the internet and reading various literature sources such as books that can support the writing of this thesis. The data required is secondary data obtained through publications from the Central Statistics Agency (BPS).

### ***Data Types and Sources***

The type of data used in this study is secondary data, namely data obtained indirectly through intermediaries or from the results of other parties' publications. As supporting material, the data processed is in the form of annual data obtained from BPS publications. In this research, the researcher used secondary data, namely Time Series data taken from 2010 to 2023.

## **RESEARCH RESULT**

### ***East Java Province's GDP by Business Field on the basis of constant prices in 2010-2023***

The Gross Regional Domestic Product of East Java Province from 2010 to 2023 has always increased except in 2020. In 2020, the Gross Regional Domestic Product of East Java Province decreased from 1,649,895.64 billion rupiah in the previous year, namely in 2019, to 1,611,392.55 billion rupiah. However, in 2021, the Gross Regional Domestic Product of East Java Province increased again to 1,668,754.36 billion rupiah and continued to increase in the following year.

### ***Madiun Regency GDP by Business Field on the basis of constant prices in 2010-2023***

The Gross Regional Domestic Product of Madiun Regency from 2010 to 2023 has always increased. The highest increase occurred in 2015 where the value of the Gross Regional Domestic Product of Madiun Regency increased by 3,731.77 billion rupiah.

### ***GDP of Magetan Regency by Business Field on the basis of constant prices in 2010-2023***

The Gross Regional Domestic Product of Magetan Regency from 2010 to 2023 has always increased except in 2020. In 2020, the Gross Regional Domestic Product of Magetan Regency decreased from 13,237.47 billion rupiah in the previous year, namely in 2019, to 13,020.89 billion rupiah. However, in 2021, the Gross Regional Domestic Product of Magetan Regency increased again to 13,417.03 billion rupiah and continued to increase in the following year.

***Ngawi Regency GDP According to Business Field on the basis of constant prices in 2010-2023***

The Gross Regional Domestic Product of Ngawi Regency from 2010 to 2023 has always increased except in 2020. In 2020, the Gross Regional Domestic Product of Ngawi Regency decreased from 20,432.65 billion rupiah in the previous year, namely 2019, to 20,270.97 billion rupiah. However, in 2021, the Gross Regional Domestic Product of Ngawi Regency increased again to 20,814.46 billion rupiah and continued to increase in the following year.

***Pacitan Regency GDP by Business Field on the basis of constant prices in 2010-2023***

The Gross Regional Domestic Product of Pacitan Regency from 2010 to 2023 has always increased except in 2020. In 2020, the Gross Regional Domestic Product of Pacitan Regency decreased from 11,040.77 billion rupiah in the previous year, namely in 2019, to 10,837.87 billion rupiah. However, in 2021 the Gross Regional Domestic Product of Pacitan Regency increased again to 11,107.40 billion rupiah and continued to increase in the following year.

***Ponorogo Regency GDP by Business Field on the basis of constant prices in 2010-2023***

The Gross Regional Domestic Product of Ponorogo Regency from 2010 to 2023 has always increased except in 2015 and 2020. In 2015, the Gross Regional Domestic Product of Ponorogo Regency decreased from 13,441.45 billion rupiah in the previous year, namely in 2014, to 11,687.87 billion rupiah. However, in 2016, the Gross Regional Domestic Product of Ponorogo Regency increased again to 12,305.65 billion rupiah and continued to increase in the following year, until in 2020 it decreased again. In 2020, the Gross Regional Domestic Product of Ponorogo Regency decreased from 14,297.10 billion rupiah in the previous year, namely 2019, to 14,168.62 billion rupiah.

***Trenggalek Regency GDP by Business Field on the basis of constant prices in 2010-2023***

The Gross Regional Domestic Product of Trenggalek Regency from 2010 to 2023 has always increased except in 2020. In 2020, the Gross Regional Domestic Product of Trenggalek Regency decreased from 12,779.45 billion rupiah in the previous year, namely in 2019, to 12,502.39 billion rupiah. However, in 2021, the Gross Regional Domestic Product of Pacitan Regency increased again to 12,959.02 billion rupiah and continued to increase in the following year.

***Data Analysis***

*Analisis Location Quotient (LQ)*

*Results of Location Quotient (LQ) Analysis of Madiun Regency*

Based on the results of the LQ analysis in tables 4.15 and 4.16, there are seven sectors that are consistently the base sectors in Madiun Regency during the 2010-2023 period, namely the Agriculture, Forestry, and Fisheries sectors; Water Procurement, Waste and Waste Management and Recycling; Construction; Mandatory Government, Defense and Social Security Administration;

educational services; Health Services and Social Activities; and Other Services. The existence of these sectors as an economic base shows that Madiun Regency has a strong economic structure in these sectors, which is able to generate surplus production to be exported to other regions. This is in line with Todaro's economic development theory which emphasizes the importance of the leading sector as a driving force for regional economic growth through job creation and increased regional income.

In the period of 2010-2023, there are seven sectors that have always been non-base sectors such as the Mining and Quarrying sector, Processing Industry, and Wholesale and Retail Trade, which shows Madiun Regency's dependence on other regions to meet the needs of these sectors. This phenomenon reflects the characteristics of the economy that are still limited in the diversification of production, as emphasized in the Kuznets theory of economic growth which describes the gradual transformation of economic structures from the primary sector to the secondary and tertiary sectors. Madiun Regency is still in a transition phase, where the base sector such as agriculture still dominates while the industrial and trade sectors have not developed optimally.

During the period of 2010-2023 there were three sectors that experienced a shift, namely the Information and Communication sector which was always a base sector during 2010-2022 and became a non-base sector in 2023, the Financial Services and Insurance Sector which was dominant as a base sector during the period of 2010-2023 except in 2015 the sector became a non-base sector, and the Real Estate Sector which experienced many shifts where the sector experienced several shifts from the base sector becomes the non-base sector and vice versa. The shift in sectors during this period reflects economic dynamics influenced by external and internal factors such as changes in technology, investment, and regional policies. This shift is in line with Todaro's view that economic development is a dynamic process that involves changing the structure of the sector and adjusting to market conditions and technology. The volatile shift in the Real Estate sector also shows instability in property investment which can affect its contribution to the regional economy.

The growth of the construction and education services sector which is the base sector reflects the development of infrastructure and the improvement of the quality of human resources in Madiun Regency. This supports Kuznets' theory which emphasizes the importance of investment in infrastructure and education as a supporting factor for long-term economic growth. This increase in the service sector also shows an economic shift towards a more modern and service-oriented tertiary sector.

The sector with the best performance in Madiun Regency during the period 2010-2023 is the Agriculture, Forestry, and Fisheries sector with an average LQ value of 2.74, confirming the position of the base sector as the backbone of the Madiun Regency economy. This is in line with the existing conditions in Madiun Regency where Madiun Regency is known as an agrarian area with a large production of rice, corn, and other agricultural commodities. The sector's contribution to GDP and labor absorption is significant, supporting

Kuznets' theory that early economic growth was largely sustained by the agricultural sector before industrialization.

Meanwhile, the sector with the worst performance, namely the Mining and Quarrying sector with an average LQ value of 0.21, shows the limitation of natural resources in Madiun Regency which is reflected in the geographical conditions of the area that do not support mining activities. This indicates that this sector is not an economic base and that regions must import related needs from outside the region. This condition strengthens Todaro's theory that regional development must focus on sectors that have comparative advantages in order to encourage sustainable economic growth.

#### *Results of Location Quotient (LQ) Analysis of Magetan Regency*

Based on the results of the LQ analysis in the table above, it can be found that there are seven sectors that have always been the base sector in Magetan Regency during the period of 2010-2023. These sectors are the Agriculture, Forestry, and Fisheries sectors; Water Procurement, Waste Management, Waste and Recycling Sectors; Information and Communication; Mandatory Government, Defense and Social Security Administration; educational services; Health Services and Social Activities; and Other Services. The sustainability of these sectors as an economic base shows that Magetan Regency has a strong economic foundation in the primary and tertiary sectors that are able to generate surplus production and services for other regions. This is in line with Todaro's economic development theory which emphasizes the importance of the leading sector as the main driver of regional economic development.

In the period of 2010-2023, there are nine sectors that have always been non-base sectors in Magetan Regency, namely the Mining and Quarrying Sector; Processing Industry; Electricity and Gas Procurement; Construction; Wholesale and Retail Trade; Car and Motorcycle Repair; Transportation and Warehousing; Provision of Accommodation and Eating and Drinking; Real Estate; and Corporate Services shows that Magetan Regency still has dependency on other regions to meet the needs of these sectors. This phenomenon reflects the stage of economic development that is still in the process of diversification, as described in Kuznets' theory of economic growth which describes the gradual transformation of the economic structure from the dominance of the primary sector to the secondary and tertiary sectors. Magetan Regency is still in a transition phase where the primary sector and public services dominate the economy.

#### *Location Quotient (LQ) Analysis Results of Ngawi Regency*

Six sectors that have always been the base sectors in Ngawi Regency during the period of 2010-2023. These sectors are the Agriculture, Forestry, and Fisheries sectors; Water Procurement, Waste Management, Waste and Recycling Sectors; Mandatory Government, Defense and Social Security Administration; educational services; Health Services and Social Activities; and Other Services. The sustainability of these sectors as the basis of the economy shows that Ngawi Regency has a strong economic structure in the primary sector and the service sector that provides basic services and public administration. This is in

accordance with Todaro's economic development theory which emphasizes the importance of the leading sector as the main motor of regional development that is able to create jobs and increase people's income in a sustainable manner. The government administration, education, and health sectors, which are always included as one of the main pillars in the regional economy, show that local governments are actively developing the basic service sector as part of efforts to improve the quality of public services and community welfare. In addition, the waste and waste management sector which is the base sector shows attention to environmental aspects and development sustainability in line with the trend of sustainable development at the national level.

In the period of 2010-2023, there are nine sectors that have always been non-base sectors in Ngawi Regency, namely the Mining and Quarrying Sector; Processing Industry; Electricity and Gas Procurement; Construction; Wholesale and Retail Trade; Car and Motorcycle Repair; Transportation and Warehousing; Provision of Accommodation and Eating and Drinking; Real Estate; The Company's Services shows that Ngawi Regency still depends on other regions to meet the needs in these sectors. This phenomenon illustrates the character of an economy that is still in the transition stage as explained in Kuznets' theory of economic growth which states that economic development takes place through a gradual change in structure from the primary sector to the secondary and tertiary sectors. Ngawi Regency is still dominated by the primary sector and basic services while the industrial and trade sectors have not developed optimally.

#### *Results of Location Quotient (LQ) Analysis of Pacitan Regency*

Eight sectors that have always been the base sector in Pacitan Regency during the period of 2010-2023. These sectors are the Agriculture, Forestry, and Fisheries sectors; Mining and Quarrying; Construction; Information and Communication; Mandatory Government, Defense and Social Security Administration; educational services; Health Services and Social Activities; and Other Services. The sustainability of these sectors as an economic base indicates that Pacitan Regency has a strong economic foundation in the primary sector and the service sector that provides public services and information. This is in line with Todaro's economic development theory which emphasizes the importance of the leading sector as a driving force for regional development, which is able to create jobs and increase people's income in a sustainable manner.

The Construction sector, which is included in the base sector, reflects the efforts of local governments in building infrastructure that supports the development of tourism, agriculture, and public services. Investment in this sector not only increases the physical capacity of the region but also opens up new jobs in accordance with Kuznets' view that infrastructure development is an important factor in driving long-term economic growth. Real phenomena on the ground show an increase in road construction projects, tourist facilities, and other public facilities in Pacitan Regency. In addition, the Information and Communication Sector, which is the base sector, shows the progress of Pacitan Regency in adopting information technology as part of the regional development strategy. The local government has initiated the Smart City and Smart Village

programs that strengthen access to information and communication, support the efficiency of public services and the development of the digital economy. This is in line with Todaro's theory which highlights the importance of technological and information innovation in accelerating regional economic development.

In the period of 2010-2023, there are seven sectors that have always been non-base sectors in Pacitan Regency, namely the Processing Industry Sector; Electricity and Gas Procurement; Water Management, Waste Management and Recycling; Provision of Accommodation and Eating and Drinking; Financial Services and Insurance; Real Estate; The Company's Services show the limitations of development and the dependence of Pacitan Regency on other regions to meet the needs of these sectors. This condition describes an economic structure that is still in a transition stage, as explained by Kuznets' theory which emphasizes the importance of economic diversification to achieve sustainable growth. Meanwhile, there are two sectors that have experienced shifts during the 2010-2023 period, namely Wholesale and Retail Trade; Car and Motorcycle Repair, which was predominantly a non-base sector during 2010-2023, except in 2020 the sector had shifted to a base sector, and the Transportation and Warehousing sector, which was previously a non-base sector, shifted to a base sector starting from 2021-2023, reflecting economic dynamics influenced by external factors such as the COVID-19 pandemic and post-pandemic economic recovery. This is in accordance with Todaro's view that economic development is a dynamic process that requires adaptation to changing market and technological conditions.

#### *Results of Location Quotient (LQ) Analysis of Ponorogo Regency*

Eight sectors that have always been the base sectors in Ponorogo Regency during the period of 2010-2023. These sectors are the Agriculture, Forestry, and Fisheries sectors; Information and Communication; Financial Services and Insurance; Real Estate; Mandatory Government, Defense and Social Security Administration; educational services; Health Services and Social Activities; and Other Services. The sustainability of these sectors as an economic base shows that Ponorogo Regency has a strong economic structure in the primary sector and services that provide important services to the community. This is in line with Todaro's economic development theory which emphasizes the importance of the leading sector as the main motor of regional development, which is able to create jobs and increase people's income in a sustainable manner.

In the period of 2010-2023, there are six sectors that have always been non-base sectors in Ponorogo Regency, namely the Mining and Quarrying Sector; Processing Industry; Electricity and Gas Procurement; Transportation and Warehousing; Provision of Accommodation and Eating and Drinking; Corporate Services. Meanwhile, there are three sectors that have shifted during the 2010-2023 period, namely Water Procurement, Waste Management, Waste and Recycling which have shifted several times in the 2010-2023 period, the sector has shifted from the base sector to the non-base sector in 2015 then shifted back to the base sector in 2018 and survived to the base sector until 2023. Furthermore, the Construction sector also experienced a shift several times in the period of 2010-

2023, the sector experienced a shift from a non-base sector to a base sector in 2011 then shifted back to a non-base sector in 2015 before returning to the base sector in 2017, finally this sector experienced a shift in 2020 to a base sector and again shifted to a base sector in 2022 to 2023. The last sectors to experience a shift during the 2010-2023 period are the Wholesale and Retail Trade sector; Car and Motorcycle Repair, which was dominant in the non-base sector during 2010-2023, except in 2019 and 2020 the sector had shifted to a base sector.

#### *Results of Location Quotient (LQ) Analysis of Trenggalek Regency*

Seven sectors that have always been the base sectors in Trenggalek Regency during the period of 2010-2023. These sectors are the Agriculture, Forestry, and Fisheries sectors; Mining and Quarrying; Real Estate; Mandatory Government, Defense and Social Security Administration; educational services; Health Services and Social Activities; and Other Services shows that Trenggalek Regency has a strong economic structure in the primary sector and the service sector that provides important services to the community. This is in line with Todaro's economic development theory which emphasizes the importance of the leading sector as the main driver of regional development, which is able to create jobs and increase people's income in a sustainable manner.

#### **Shift Share Analysis**

##### *Shift Share Analysis of Madiun Regency*

The Regional Potential (PR) Calculation in Madiun Regency during the period of 2010-2023 shows that the growth of all economic sectors in Madiun Regency tends to encourage the growth of the same sector at the provincial level which shows that there is a positive synergy between local and regional economic growth which is in line with Todaro's economic development theory, which emphasizes the importance of interaction between sectors and regions in accelerating economic development. The best sector in Madiun Regency during the 2010-2023 period that tends to encourage growth at the provincial level is the Construction sector with a difference in the average PR value below the QIJ delta of 123.44, showing Madiun Regency's focus on massive infrastructure development which is also supported by local government policies to improve road networks and public facilities to support economic activities. As for the worst sector during the 2010-2023 period, namely the electricity and gas procurement sector with a difference in the average PR value below the QIJ delta of 0.62.

##### *Shift Share Analysis of Magetan Regency*

The calculation of Regional Potential (PR) in Magetan Regency during the period of 2010-2023 shows that the growth of the economic sector in Madiun Regency is dominant and tends to encourage the growth of the same sector at the provincial level with twelve sectors that have a positive impact on economic growth at the provincial level. The best sector in Madiun Regency during the 2010-2023 period that has been the most successful to encourage growth at the provincial level is the Information and Communication sector with a difference in the average PR score below the QIJ delta of 27. As for the worst sectors during

the 2010-2023 period, namely the Peratnian, Forestry, and Fisheries sectors with an average PR value above the QIJ delta of 105. These findings are in accordance with Todaro's economic development theory which emphasizes the importance of interaction between sectors and regions in accelerating economic growth as well as the theory of shift-share according to Sjafrizal and Arsyad which outlines how the analysis of growth components can identify sectors that drive regional growth. The real phenomenon in Magetan Regency shows the acceleration of technological development and digitalization, especially in the Information and Communication sector which is the main driver of regional growth.

#### *Analysis of the Shift Share of Ngawi District*

The calculation of Regional Potential (PR) in Ngawi Regency during the period of 2010-2023 shows that the growth of all economic sectors in Ngawi Regency tends to encourage the growth of the same sector at the provincial level. The best sectors in Ngawi Regency during the 2010-2023 period that have been the most successful to encourage growth at the provincial level are the Wholesale Trade and Screen, Car and Motorcycle Repair sectors with an average PR score difference below the QIJ threshold of 113. As for the worst sectors during the 2010-2023 period, namely the Water Procurement, Waste Management, Waste and Recycling sectors with an average PR value below the QIJ delta of 0.49. These findings are in line with Todaro's economic development theory which emphasizes the importance of interaction between sectors and regions to accelerate economic growth as well as the shift-share theory according to Sjafrizal and Arsyad which outlines how the analysis of growth components can identify sectors that drive regional growth. The real phenomenon or current condition in Ngawi Regency, which is an agricultural area as well as a center of trade and services, strongly supports this result with the development of trade zones and infrastructure improvements that increase economic activity.

#### *Analysis of Shift Share in Pacitan Regency*

The calculation of Regional Potential (PR) in Pacitan Regency during the period of 2010-2023 shows that the growth of the economic sector in Pacitan Regency is dominant and tends to encourage the growth of the same sector at the provincial level with eleven sectors that have a positive impact on economic growth at the provincial level. The best sectors in Pacitan Regency during the 2010-2023 period that tend to encourage growth at the provincial level are the Wholesale and Retail Trade, Car and Motorcycle Repair sectors with an average PR value difference below the QIJ delta of 18.02. As for the worst sectors during the 2010-2023 period, namely the Peratnian, Forestry, and Fisheries sectors with an average PR value above the QIJ delta of 58.95. These findings are in line with Todaro's economic development theory which emphasizes the importance of interaction between sectors and regions in accelerating economic growth and the shift-share theory according to Sjafrizal and Arsyad which explains how the analysis of growth components can identify sectors that drive regional growth. The real phenomenon in Pacitan Regency shows that although the agricultural sector is the backbone of the regional economy, the growth of the trade sector

and vehicle repair services is the main driving force for more dynamic economic growth.

#### *Shift Share Analysis of Ponorogo Regency*

The calculation of Regional Potential (PR) in Ponorogo Regency during the period of 2010-2023 shows that the growth of the economic sector in Ponorogo Regency is dominant and tends to encourage the growth of the same sector at the provincial level with nine sectors that have a positive impact on economic growth at the provincial level. The best sectors in Ponorogo Regency during the 2010-2023 period that tend to encourage growth at the provincial level are the Information and Communication sector with a difference in average PR values below the QIJ delta of 30.21. As for the worst sectors during the 2010-2023 period, namely the Peratnian, Forestry, and Fisheries sectors with an average PR value difference above the QIJ delta of 116.81. These findings are in accordance with Todaro's economic development theory which emphasizes the importance of interaction between sectors and regions in accelerating economic growth, as well as shift-share theory according to Sjafrizal and Arsyad which explains how the analysis of growth components can identify sectors that drive regional growth. The real phenomenon in Ponorogo Regency shows rapid progress in the information and communication technology sector supported by the local government's digitalization program while the agricultural sector, which has been the backbone of the region, faces challenges in increasing productivity and diversification.

#### *Shift Share Analysis of Trenggalek Regency*

The calculation of Regional Potential (PR) in Trenggalek Regency during the period of 2010-2023 shows that the growth of the economic sector in Trenggalek Regency is dominant and tends to encourage the growth of the same sector at the provincial level with thirteen sectors that have a positive impact on economic growth at the provincial level. The best sector in Trenggalek Regency during the 2010-2023 period that tends to encourage growth at the provincial level is the Processing Industry sector with a difference in the average PR value below the QIJ delta of 39.59. As for the worst sectors during the 2010-2023 period, namely the Peratnian, Forestry, and Fisheries sectors with an average PR value above the QIJ delta of 79.91. These findings are in accordance with Todaro's economic development theory which emphasizes the importance of interaction between sectors and regions in accelerating economic growth and the shift-share theory according to Sjafrizal and Arsyad which explains how the analysis of growth components can identify sectors that drive regional growth. Real phenomena in Trenggalek Regency, such as the development of the processing industry supported by the potential of local resources and investment, have also strengthened the position of this sector as a motor of regional economic growth.

#### *Klassen Typology Analysis*

All districts in the southwestern part of East Java Province are predominantly included in the classification of "Relatively Disadvantaged Areas" during the period 2010-2023. It can be seen that the six districts have an average

GDP growth and a GDP value per capita that is lower than the average of districts/cities in East Java Province. This is in line with Todaro's economic development theory which emphasizes that the backwardness of a region is often caused by limited human resources, infrastructure, and accessibility that affect the capacity of the region to drive economic growth. This condition also reflects the phenomenon described by the economic growth theory of Kuznets and Tarigan, where the transformation of economic structures from the primary sector to the secondary and tertiary sectors has not been optimal, so that these regions are still dependent on the primary sector with relatively low productivity.

In 2020, during the pandemic, the six districts managed to shift into quadrant III, namely the classification of "Rapid Developing Regions", showing a positive response to economic stimulus and policy adaptation that supports the acceleration of growth. However, after the pandemic, only Madiun Regency, Ponorogo Regency, and Trenggalek Regency managed to maintain to remain in Quadrant III unless in 2022 they had time to return to Quadrant IV. As for the other districts, namely Magetan Regency, Ngawi Regency, and Pacitan Regency, it is still inconsistent and finally in 2023 the three districts will again be in quadrant IV, namely "Relatively Disadvantaged Areas". This can be analyzed using shift-share theory according to Sjafrizal and Arsyad which emphasizes the importance of competitive advantage and economic sector dynamics in determining the ability of regions to grow and adapt. Districts that are able to develop leading sectors and increase their competitiveness tend to be more resistant to external shocks and are able to maintain more stable growth.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the analysis of six districts in the southwestern region of East Java Province during the 2010–2023 period, the following conclusions were obtained:

### *Base and Non-Base Sectors*

Each district has different leading sectors (bases):

1. Madiun and Ngawi Regencies have agriculture, education, and health sectors as the main base sectors.
2. Magetan and Trenggalek show consistency in the government administration and social services sectors.
3. Pacitan and Ponorogo showed excellence in other service sectors, as well as several sectors such as construction and communications.

Several sectors experienced a shift in status between base and non-base during the analysis period, indicating the structural dynamics of the regional economy.

### *Shift Share Analysis*

- Madiun and Ngawi Regencies show that all sectors are able to encourage economic growth, both provincially and locally.

- Other districts such as Magetan, Ponorogo, Pacitan, and Trenggalek have leading sectors that are growing relatively fast, especially the processing industry, trade, transportation, and education services sectors.
- Each district has a number of sectors that show competitive and locational advantages, which have the potential to be the driving force for regional economic development.

### *Typology Class*

- Only Madiun Regency is classified as a fast-growing area, with growth and GDP per capita above average.
- The districts of Magetan, Ngawi, Pacitan, Ponorogo, and Trenggalek are categorized as relatively underdeveloped areas, so they require a more focused and affirmative development strategy.

### *Recommendation*

Local governments in the six districts in the southwestern part of East Java Province are expected to increase the productivity of the base sector and encourage the development of the non-base sector so that these sectors can increase regional income and the welfare of the people in the area. The government is expected to provide facilities to support sectors that have or have the potential to make a major contribution to the regional economy.

### **ADVANCED RESEARCH**

This advanced research aims to analyze the structural transformation and spatial economic disparities among six districts in the southwestern region of East Java Province—Madiun, Ngawi, Magetan, Trenggalek, Pacitan, and Ponorogo—over the 2010–2023 period using a combination of Location Quotient (LQ), Shift Share, and Klassen Typology analyses. The study investigates how regional comparative advantages evolve over time and identifies key sectors that act as economic drivers in each district. Particular emphasis is placed on understanding the sectoral shifts from base to non-base status and vice versa, and how these dynamics reflect deeper changes in regional economic structures. By integrating spatial-temporal data and economic performance indicators, the research seeks to develop a comprehensive development typology that informs differentiated policy interventions. The ultimate goal is to formulate evidence-based recommendations for enhancing productivity in leading sectors and accelerating inclusive regional development, especially in districts identified as relatively underdeveloped, through targeted investments, infrastructure support, and institutional strengthening.

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